



## Setting Cash Rents and Variability in Returns

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Returns to farmland likely will vary considerably over the next several years. This variability will make it difficult to set a cash rent that can remain the same for several years. Prices projected for 2015 are lower than likely long-run prices. As a result, cash rents based on 2015 returns may have to be raised in the future. Similarly, rents may need to be lowered if those cash rents were set based on returns in 2010 through 2013, particularly given that prices in 2010 through 2013 were above likely long-run average prices.

### Prices and Operator and Land Returns

Operator and land returns are calculated for the following three sets of prices to illustrate difficulties in setting cash rents:

1. Projected-2015 prices. Corn price is \$3.70 per bushel and soybean price is \$9.75 per bushel. These are current estimates used in the *2015 Illinois Crop Budgets*.
2. Long-run prices. Corn price is \$4.60 per bushel and soybean price is \$11.00 per bushel. These prices have been suggested as good estimates of the levels prices will average in the long-run ([February 27, 2013](#)).
3. Higher prices. Corn price is \$5.40 per bushel and soybean price is \$12.20 per bushel. These are similar to prices between 2010 through 2013.

These prices represent the range seen in the past several years. They likely represent a conservative range of prices that will occur in the future.

For these prices, operator and land returns are calculated using yields and non-land costs contained in the *2015 Illinois Crop Budgets* for central Illinois having high productivity farmland. Table 1 shows these calculations for projected-2015 prices. Yields are 199 bushels per acre for corn and 59 bushels per acre for

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soybeans. An additional \$20 per acre is included for commodity program payments. Non-land costs are \$585 per acre for corn and \$370 per acre for soybeans. The operator and land return is projected at \$190 per acre given that acres are evenly split between corn and soybeans.

**Table 1. Operator and Land Returns for Central Illinois Farmland on High-Productivity Farmland.<sup>1</sup>**

	Corn	Soybeans	Average <sup>2</sup>
Price (\$/bu)	\$3.70	\$9.75	
Yield (bu./acre)	199	59	
	\$/acre	\$/acre	\$/acre
Crop revenue	\$736	\$575	\$656
Gov't payments	<u>20</u>	<u>20</u>	<u>20</u>
<b>Gross revenue</b>	<b>\$756</b>	<b>\$595</b>	<b>\$676</b>
<b>Non-land costs</b>	<b>585</b>	<b>370</b>	<b>478</b>
Operator and land return	<b>\$171</b>	<b>\$225</b>	<b>\$198</b>

<sup>1</sup> Yields and costs taken from *2015 Illinois Crop Budget*.

<sup>2</sup> Based on 50% of acres in corn and 50% in soybeans.

### Variability

For these prices, operator and land returns are:

- \$198 per acre for the projected-2015 prices (\$3.70 for corn and \$9.75 for soybeans),
- \$325 per acre for the long-run prices (\$4.60 for corn and \$11.00 for soybeans), and
- \$440 per acre for the higher prices (\$5.40 for corn and \$12.20 for soybeans).

The above range represents the variability in operator and land returns that we have seen in the past several years. In 2010 through 2012, operator and land returns were above or near the \$440 per acre estimate for higher prices. The 2015 operator and land return is projected to be \$171 per acre. Besides being the range seen in the past, this is the likely range in yearly returns for the foreseeable future.

### Implications for Cash Rents

Subtracting cash rent from the operator and land return gives farmer return. Take a \$325 operator and land return and a \$300 cash rent. The farmer return will be \$25 per acre (\$325 operator and land return - \$300 cash rent). Over time, farmers must have positive returns.

Several implications from the above operator and land returns:

- If prices over the next several years average near the long-run prices (\$4.60 for corn and \$11.00 for soybeans), operator and land return likely will average near \$325 per acre. Currently, average cash rents for high-productivity farmland are near \$300 per acre. A \$300 cash rent yields \$25 per acre farmer return. A \$25 farmer return likely is not high enough, suggesting that average cash rents need to decline.
- Projections are for a \$171 operator and land return for 2015. At this projection, most farmers will experience losses given current levels of cash rent.
- Variability in returns over time makes it difficult to set a cash rent that will not have to be changed in future years. For example, the \$171 per acre operator and land return for projected-2015 prices suggest that cash rent should be less than \$171 per acre. A rent based on a \$171 operator and land return likely would have to be adjusted up for higher prices. Conversely, a rent set for a \$440 per acre for higher prices likely would have to be adjusted down given lower prices.
- These returns also suggest levels for base rents in variable cash rent arrangements. These arrangements typically have a base rent that the landowner receives regardless of revenue. If the rental arrangement will not be modified for several years, the above returns suggest relatively low base rents. Even at a \$200 per acre base rent, projections would suggest farmer returns would be negative for 2015.

## References

Schnitkey, G. "[The New Era of Crop Prices --- A Five-Year Review.](#)" *farmdoc daily* (3):38, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, February 27, 2013.